be arranged on another height level within the sheet **111**. The branches of the channel **138** may be arranged in any suitable combination of the above examples. However, any other suitable arrangement of the channel **138** within the sheet **111** may be used.

[0042] As shown in FIG. **14**, similar to the second preferred embodiment, the third preferred embodiment includes a channel **138** that couples a first group of cavities **125** and a second group of cavities **125** to the displacement device **130**. The first and second groups of cavities **125** are preferably not directly connected to each other. The channel **138** preferably forms a T-junction between the displacement device **130** and the two groups of cavities **125**, and the channel preferably includes a valve **139** at the T-junction to direct fluid displaced by the displacement device **130** to one or both of the groups of cavities **125**. However, the channel **138** may be of any other suitable orientation. The valve **139** is preferably of the type described above in the second preferred embodiment. In a variation where one cavity **125** may belong to more than one group of cavities **125**, for example, as shown in FIG. **17** where a first group of cavities **125** that correlate to a landscape QWERTY keyboard and a second group of cavities **125** that correlate to a portrait QWERTY cavity **125** group share cavities **125**. The shared cavities **125** may be thought of as a third group of cavities **125** that cooperates with the first group of cavities **125** to correlate to a landscape QWERTY keyboard and cooperates with the second group of cavities **125** to correlate to a portrait QWERTY keyboard. In this variation, each of the shared cavities **125** may be coupled to more than one channel **138**, as shown in FIG. **18**. This allows expansion of each shared cavity **125** when any of the displacement devices **130** pertaining to each of the groups to which the cavity **125** belongs is activated. To regulate the expansion of the cavity **125**, the cavity **125** may include a valve of a type described above for valve **139** that prevents fluid from a first channel **138** belonging to a first group to flow through the cavity **125** to a second channel **138** belonging to a second group. The valve may also be used to prevent fluid from more than one channel **138** to expand the cavity **125**, which may potentially cause the over-expansion of the cavity **125**. However, any other suitable arrangement of a cavity **125** that may belong to more than one group may be used.

[0043] Similar to the second preferred embodiment, the third preferred embodiment preferably includes a processor that controls the displacement device **130** and the valve **139**. The processor preferably regulates the volume of fluid that is displaced by the displacement device **130** and/or the volume of fluid that enters and exits the cavities **125** to expand and retracts the cavities **125** to prevent over expansion and over retraction. The processor preferably also determines if one (and which one) or both of the groups of cavities **125** is to be expanded. If the number of cavities within the first group of cavities **125** is different from the number of cavities within the second group of cavities **125**, the processor preferably regulates the volume of fluid that is displaced by the displacement device **130** to accommodate for the difference in volume of fluid necessary to expand each group of cavities **125**. In all other respects, the processor of the third preferred embodiments is preferably similar or identical to the processor of the second preferred embodiment.

4. Fourth Preferred Embodiment

Concurrent and Selective Expansion of Cavities

[0044] In a fourth preferred embodiment, as shown in FIGS. **19***a*-**19***d*, the displacement device **130** preferably expands a first cavity **125***a* and one of a second cavity **125***b* and third cavity **125***c* at one time. Similar to the first preferred embodiment, the first cavity **125***a* is expanded concurrently with the expansion of any one of the second and third cavities **125***b* and **125***c*. Similar to the second preferred embodiment, the displacement device **130** of the fourth preferred embodiment preferably expands the second and third cavities **125***b* and **125***c* in two modes: a first mode where only one of the second and third cavities **125***b* and **125***c* is expanded, and a second mode where both of the second and third cavities **125***b* and **125***c* are expanded. Alternatively, the displacement device **130** may expand only one of the second and third cavities **125***b* and **125***c* at any one time. A variation of the fourth preferred embodiment may be similar to the third preferred embodiment. In this variation, the displacement device **130** may function to expand a first group of cavities **125** and one of a second group of cavities **125** and a third group of cavities **125** at one time. This variation may be applied to the variation of the user interface system **100** including cavities **125** that are shared between two groups of cavities **125**, as shown in the landscape and portrait QWERTY example in FIG. **17** and described in the third preferred embodiment. The first group of cavities **125** preferably function as the shared cavities **125** that expanded whenever either one of the landscape QWERTY group or the portrait QWERTY group are to be expanded, and the second group of cavities **125** preferably functions as the non-shared QWERTY keys in the landscape QWERTY group and the third group of cavities **125** preferably functions as the non-shared QWERTY keys in the portrait QWERTY group. However, the fourth preferred embodiment may be applied to any other suitable arrangement.

[0045] As shown in FIGS. **19***a*-**19***d*, similar to the first preferred embodiment, the fourth preferred embodiment includes a channel **138** that couples the first cavity **125***a* to the second and third cavities **125***b* and **125***c*. Similar to the second preferred embodiment, the channel **138** preferably does not directly connect the second cavity **125***b* to the third cavity **125***c*, preferably forms a T-junction between the displacement device **130** and the second and third cavities **125***b* and **125***c*, and preferably includes a valve **139** that directs fluid flow displaced by the displacement device **130** to one of or both of the second and third cavities **125***b* and **125***c*. However, the channel **138** may be of any other suitable orientation. The valve **139** is preferably of the type described above in the second preferred embodiment. Because the fluid flow to either one of the second or third cavities **125***b* and **125***c* passes through a valve **139** while fluid flow to the first cavity **125***a* does not, the valve **139** is preferably of a type that does not increase the pressure required to expand the second and third cavities **125***b* and **125***c*. For example, the valve **139** is preferably not actuated by the pressure of the fluid flow within the channel **138**. Similar to the first preferred embodiment, the second and third cavities **125***b* and **125***c* may be of different geometries from the first cavity **125***a* to maintain substantially similar expansion start times and/or the size of the channel **138** leading to the second and third cavities **125***b* and **125***c* may be increased in size (in diameter and/or cross sectional area) to decrease the pressure necessary for fluid to travel through the channel **138**. However, any other geometry or method of allowing both the first cavity **125***a* and one of or both of the second and third cavities **125***b* and **125***c* to start expansion substantially at the same time and at the same rate may be used. The first cavity **125***a* and one of or both of the